From: Joseph Heimbuch (heimbuch@demaximis.com)
Sent: Wed 6/29/2005 11:34 AM
Rcvd: Wed 6/29/2005 11:23 AM
To: vandonsel.terese@epa.gov
CC: wayne_reiber@cabot-corp.com; Robert Rule (Bob@demaximis.com); jxschwendeman@firstenergycorp.com; david_steele@oxy.com; rmason@rtiintl.com; tsteib@suite224.net
Subject: Fields Brook - Contamination Source Identification &Delineation Plan

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Terese,

Attached is a 6/29/05 draft Contamination Source Identification & Delineation Plan (Plan) that describes the investigation of the contamination recently found in Fields Brook (EU-8). As mentioned previously, we view this as a work in progress subject to modification based upon review of information/data to be provided by Detrex and, of course, situations that may develop in the field. We expect to receive the information/data from Detrex soon.. Our Technical Committee is meeting on July 13th and 14th to modify the Plan as required and finalize mobilization and implementation.

We will keep you informed as we proceed with our information/data review and final implementation planning. If you have any questions, don't hesitate to contact Bob or I...

Joe

Joseph A. Heimbuch
demaximis, inc.
2975 Bee Ridge Road
Suite C
Sarasota, Florida 34238
941-926-7929

Draft – June 29, 2005

CONTAMINATION SOURCE IDENTIFICATION AND DELINEATION PLAN FIELDS BROOK SUPERFUND SITE, ASHTABULA, OHIO

Background

During routine operation and maintenance activities the week of May 24, 2005, soils containing a black liquid were encountered in and under the streambed of Fields Brook within a small area (approximately 50' x 20') in EU-8. Figure 1 provides the approximate location of the discovery. This material resembled the DNAPL that was found and removed from EU-8 and EU-6 during the Fields Brook cleanup in 2001/2002. The soils were sampled and sent for analysis using Quality Assurance Project Plan (QAPP) specified parameters. The source and areal extent of this contamination are unknown.

The sediment/soils from the precise area of the recent discovery were previously excavated, treated thermally (to remove the DNAPL constituents) and returned to the Brook area with the addition of hydric-compatible soils.

The extent of this contamination and the pathway of this material to the Brook are unknown. For these reasons the Fields Brook Action Group (FBAG) has developed a Contamination Source Identification and Delineation Plan (Plan). This Plan will remain flexible to modifications as additional data and information become available.

Objectives

There are three objectives to this work effort: (1) contain the contamination to prevent or minimize migration in the streambed; (2) delineate and determine the source of the contamination from the recent discovery and ascertain whether this source of contamination is a continuing contributor to Fields Brook and its floodplain; and (3) report findings and develop recommendations for further actions.

Scope of Work

Work under this Plan will be completed consistent with the approved QAPP, the Remedial Action Work Plan, the Field Sampling Plan, and the Health and Safety Plan for the Fields Brook Site Remedial Action. The three components of the Plan are:

(1) Containment

Containment will involve installation of a barrier trench and collection system perpendicular to Fields Brook as a protective measure to prevent any downstream migration of the identified material. Initially, the barrier will be installed at the downstream boundary of EU-8. If necessary – based on the field investigation efforts – a similar barrier will be installed in EU-6.

(2) Delineate and Determine the Source

Current efforts are focused on gathering and evaluating all pertinent, available information and data, as follows:

- Obtain all source control information from Detrex related to the quantity, nature and extent of the DNAPL under its plant site; monitoring well and boring log data defining

the nature and depth of the confining clay; and as-built drawings related to facility underground piping - including the old outfall, the new outfall, utilities (through the slurry wall) and storm water return line;

- Compile the data and information obtained during the delineation and removal of DNAPL-affected material from EU-8 and EU-6 in 2000/2001 - including depth to clay, excavation contours relative to streambed and clay, locations of pockets, cracks and sand stringers containing DNAPL-affected material; and
- Obtain as-built drawings for public subsurface structures in the vicinity and north of EU-8 - including the State Road roadbed, utility lines parallel to State Road and subsurface drainage structures along State Road (e.g. sewers and storm water drains).

This information and data will be used to refine the field investigation.

Field efforts will involve a number of techniques to collect data for identification of potential pathways and source areas:

- Real time, active soil gas screening techniques will be used to assess pipelines and pipeline bedding material as potential pathways. Initially, driven probes will be advanced in close proximity to the outfalls into the bedding materials (avoiding the pipe) and proximal to the utility lines and roadbed of State Road as generally depicted on Figure 2. A vacuum will be drawn on the probe and vapors collected for PID screening analysis. Excavations will be used to collect samples for laboratory analysis (TCL VOC and SVOC) in areas where screening indicates the presence of source material. Soil gas screening will continue from south to north along the pipelines for approximately 500 feet.
- Ground Penetrating Radar will be used in areas specified on Figure 2 to confirm the location and surface morphology of the confining clay - as delineated in the 2000/2001 DNAPL investigation.
- Geoprobe borings may be utilized at surveyed locations to tag the top of clay and to collect samples in areas where the nature of the clay layer (e.g. undulations, swales and other imperfections) indicates the potential for the presence and migration of DNAPL. Preliminary Geoprobe locations are identified on Figure 2.

The location that the contaminated material was found in May 2005 is identified on Figure 3. This location is approximately 250 feet east of State Road in Fields Brook. The general delineation of DNAPL encountered during the 2001/2002 effort is also shown on Figure 3.

Based on prior experience, delineation will be performed primarily using previously approved methods - excavation trenches and test pits. In unsaturated areas some active soil gas may be used to focus the location of trenches and pits. Delineation will begin in the area of discovery, trenching laterally from the area of contamination to the top of clay to ascertain whether there is a lateral source for this specific contamination. For further confirmation of the extent, areas upstream and downstream will be tested, as will other strategic locations as identified on Figure 4. As data and information becomes available from the source evaluation, additional testing may be performed.

During the source identification/evaluation and delineation efforts, contaminated material will be removed and containerized or otherwise secured for future disposition. To the extent practicable and appropriate, any discovered source will be temporarily addressed to minimize or prevent further migration towards and into Fields Brook (e.g. cutoff collection trench).

Unaffected material, based on visual observations and field screening using PID, will be returned to the excavations.

(3) Reporting
A report will be prepared that describes the process and procedures, findings and any recommendations for further action.

Estimated Schedule
Schedule duration approximation for major project activities is summarized below:

Activity	Duration (work days)
Pre-mobilization, Planning and Procurement	30
Source Identification/Evaluation Field Work	45
Supplemental Delineation	30
Reporting	45

It is anticipated - based on previous investigations - that implementation of this work will be a flexible program, requiring field decisions and modifications relative to sampling locations and techniques. As such, communication between representatives of the FBAG and USEPA will be on a frequent basis.